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ABSTRACT

Under legislative mandate, the Chancellor's Office of the California Community Colleges (CCC) was directed to report to the California Postsecondary Education Commission (CPEC) on the number, ethnicity, gender, disability, and age of individuals receiving services as learning disabled (LD) students during each academic year from 1987-88 through 1990-91. CPEC, in turn, was directed to review and comment on these data, and make appropriate recommendations to the state legislature. The purpose of this legislative mandate is to assure that bias does not exist in the referral, assessment, and delivery of LD services. This report provides CPEC's comments and recommendations to the legislature concerning the second annual report from the Chancellor's Office entitled, "Learning Disabilities Eligibility Outcomes: 1988-89," which appears in its entirety as an appendix. Findings include the following: (1) students from all age groups were referred for LD assessment at rates proportional to their numbers in the total student body, except for students over 50, who were referred at a rate of less than one-third their total numbers; (2) while comprising 9.1% of the total student body, Asian/Pacific Islander students constituted only 2.1% of the students referred for LD services; (3) in demographic comparisons of community college LD students with LD clients in public schools and the State Department of Rehabilitation, similar underrepresentation of Asian/Pacific Islander groups was found; and (4) the CCC eligibility model shows no evidence of ethnic, gender, or age-related bias in its design or operation. Data tables, and copies of the relevant legislative passages are included. (JMC)

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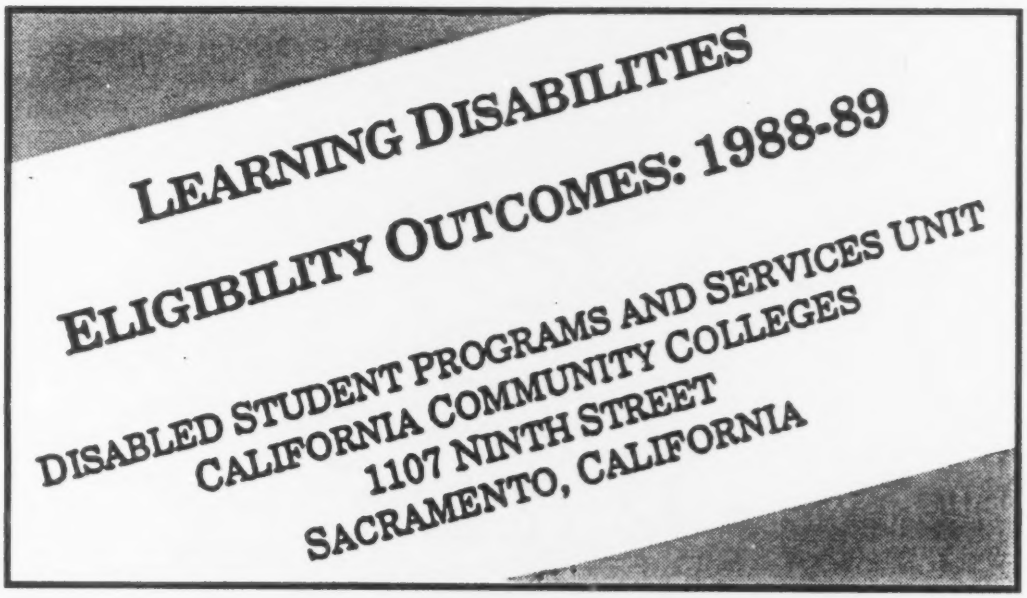
COMMENTS ON THE CALIFORNIA COMMUNITY COLLEGES' 1989 STUDY OF STUDENTS WITH LEARNING DISABILITIES



CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

JC 910 170

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Summary

Supplemental Report Language to the 1988 State Budget Act directed the California Community Colleges to report to the Postsecondary Education Commission on the number, gender, age, and ethnicity of learning disabled students for the 1987-88 academic year, and then later for the four academic years 1987-88 through 1990-91. It also directed the Commission to comment on these reports to the Legislature.

The Chancellor's Office has prepared the second in this series of required reports, which is reproduced in Appendix B, beginning on page 11 of this document. The preceding pages of the document discuss and summarize that report in comparison with the information in last years' report from the Chancellor's Office.

Based on two years of study of information on this subject, the Commission believes that the community colleges' process for selecting students to receive learning disability services shows no evidence of ethnic, gender or age-related bias in its design or operation. In this report, it suggests that the Chancellor's Office continue to collect and report demographic information on community college learning disabled students for review and discussion by the advisory committee convened by the Commission for this project. That group will provide further advice on this issue prior to preparation by the Chancellor's Office of its final report by March 1992.

Commission staff will continue to follow this issue and comment on any future developments regarding it in the biennial reports on services for all disabled students in all three segments of California public higher education that were mandated by Assembly Bill 746 (Hayden, 1987).

The Commission adopted this report at its meeting on April 30, 1990, on the recommendation of its Policy Evaluation Committee. Additional copies of the report may be obtained from the Publication Office of the Commission at (916) 324-4991. Questions about the substance of the report may be directed to Kevin G. Woolfork of the Commission staff at (916) 322-8007.

COMMENTS ON THE CALIFORNIA COMMUNITY COLLEGES' 1989 STUDY OF STUDENTS WITH LEARNING DISABILITIES

A Second Report to the Legislature in Response to Supplemental Report Language to the 1988 State Budget Act

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
Third Floor • 1020 Twelfth Street • Sacramento, California 95814-3985

COMMISSION REPORT 90-14
PUBLISHED APRIL 1990

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Comments on the California Community Colleges' 1989 Study of Students with Learning Disabilities

Origins of the Commission's comments

Supplemental Report Language to the 1988 State Budget Act, which is reproduced in Appendix A on page 11 of this report, directed the California Community Colleges to provide instructional services to students with learning disabilities. The Supplemental Language also stated the Legislature's intent that the community colleges continue the statewide implementation of their eligibility model for determining students' needs for learning disability services. The language directed the Chancellor's Office to report on the gender, age, and ethnicity of learning disabled students for the 1987-88 academic year, and later for the academic years 1988-89 through 1990-91, and it directed the Commission to review and comment on those studies.

Contents of the reports

In January 1989, the Commission issued its comments on the initial report from the Chancellor's Office. Those comments provided extensive background on learning disabilities and how the community colleges' learning disabilities assessment process functions; and copies of that report -- *Comments on the Community College's Study of Students with Learning Disabilities* (Commission Report 89-5) -- are available from the Commission without charge. In this present document, it comments on the second report from the Chancellor's Office, *Learning Disabilities Eligibility Outcomes: 1988-89*, which is reproduced in Appendix B beginning on page 13.

The major concern of the Legislature in calling for the Chancellor's Office reports and the Commission's comments on those reports was the possibility of bias in the community colleges' process of referring students and then assessing their eligibility for learning disabled services -- a process summarized in Display 1 below and termed the "learning disability eligibility determination model" by the community colleges.

In its first report on this subject, the Commission concluded that the proportions of community college students referred, identified, and served by this model did not show patterns of bias by age, ethnicity, or gender -- the three demographic groupings called for in the Legislature's Supplemental Language. The Commission raised several questions about the student ethnicity percentages, however, and suggested comparisons with other learning disabled client groups. The most significant question was why Asian and Filipino students, as well as students over the age of 50, were so statistically underrepresented in the college's learning disabled service populations relative to their percentage among community college students at large.

The 1989 Chancellor's Office report provides information in response to these questions. It discusses the 1988-89 demographic data in comparison with that in the previous report, and it compares the demographic characteristics of community college

DISPLAY 1 *Process of Selecting Community College Students Who Receive Learning Disabled Services*

All Community College Students	→	Students Referred for Assessment as Possibly Being Learning Disabled	→	Students Identified as Being Eligible to Receive Learning Disabled Services	→	Students Who Actually Receive Learning Disabled Services

Source: California Postsecondary Education Commission.

students receiving learning disabled services with those of two other groups -- learning disabled students in California's public schools, and recipients of learning disabled services from the California State Department of Rehabilitation. It also includes information on the ethnicity issue that was generated by members of the advisory committee convened by the Commission to evaluate the information collected by the Chancellor's Office.

(The Commission convened this advisory committee earlier than called for in the Supplemental Language in order for it to review and discuss the community colleges' 1987-88 and 1988-89 reports. As called for in the language, the advisory committee is comprised of individuals with expertise in psychometric testing assessment instruments and the testings' impact upon minority groups. The members of this advisory committee are listed in Display 2 below. The committee held its initial meeting in January 1990 and discussed both reports and other information on learning disabled students.)

Definition of learning disabilities

"Learning disabilities" is a general term that refers to the heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. Even though these disabilities may exist concomitantly with other handicapping conditions, such as visual or hearing impairment, or with environmental influences like cultural or language differences, they are not the direct result of any of those conditions or influences.

As the Commission noted in its 1989 report, California's Education Code, like other State and federal manuals, defines a learning disability as

> a persistent condition of presumed neurological dysfunction which may also exist with other disabling conditions. This dysfunction continues despite instruction in standard classroom situations. Learning disabled adults, a heterogeneous group, have common attributes:

DISPLAY 2 Advisory Committee to Review the Learning Disabilities Studies of the California Community Colleges

Richard Griffiths, Vice President
California Association of Postsecondary Education for the Disabled

Christine O'Dell
Learning Disabilities Specialist
President's Office, University of California

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University of Kansas

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San Bernardino Valley College

Marshall Raskind, Chair
California State University
Learning Disabilities Task Force
California State University, Northridge

Jackie Cheong
Special Education Division Consultant
California State Department of Education

Len Billings, Psychologist
California State Department of Rehabilitation

Julie Saylor, Program Analyst
California State Department of Finance

Bob Olson, Program Analyst
California State Department of Finance

Kevin Woolfork, *Convenor*
Postsecondary Education Specialist
California Postsecondary Education Commission

Source: California Postsecondary Education Commission.

- Average to above average intellectual ability;
- Severe difficulties in processing information;
- Substantial aptitude-to-achievement discrepancies;
- Measured achievement in an instructional or employment setting; and
- Demonstrated level of personal independence and responsibility expected for his or her peer group.

Learning disabilities are often confused with mental retardation or some other disabilities, but they are quite separate and specific from these others. They are sometimes referred to as "hidden handicaps" because they become apparent only in very specific academic or work situations. Some students see or read words backwards or invert letters, while others have difficulty following a sequence of directions. If the learning disability is visual-spatial in nature, the affected student may have difficulty driving a car, copying material from a chalk board, or understanding the tables in a text book. Indeed, the most commonly agreed-upon characteristic of students with learning disabilities is that they are not achieving at a level that one would expect.

In the past, labels such as "dyslexia" were used to categorize specific learning disabilities. These terms are no longer used because although they were convenient, they were found to not accurately describe learning disabilities. Learning disabled students differ substantially from developmentally delayed learners (formerly known as "developmentally disabled"). Learning disabled students have average to above average intelligence and a record of demonstrated achievement and ability, while developmentally delayed learners have below-average intelligence and evidence only "potential" for future academic and employment success.

Number of students with learning disabilities

Display 3 on page 4 is based on data from the new report from the Chancellor's Office. It compares the number and percentage of students enrolled in the community colleges as a whole in 1988 by age, sex, and ethnicity with those students who were (1) referred, (2) identified as eligible, and (3) served as learning disabled -- the three stages of the learning disabled eligibility process. The services that colleges provide to these students may include complete diagnostic assessments to determine their functional, educational, and employment levels, and specialized learning services not otherwise offered to students.

As Display 3 shows, total Fall 1988 enrollment in the California Community Colleges was 1,322,509, including students who were registered as either full time or part time, attended either day or evening classes, and enrolled in either credit or noncredit courses. The 9,594 "Students Referred for Learning Disabled Assessment" constituted 98.9 percent of the 9,691 who initiated the identification procedures used in the learning disability model. This group is the most significant of any for comparison purposes, because it represents the maximum number of students who can become eligible to receive learning disabled services. If the numbers of referrals are low for any category of students, the numbers of students in that group's "identified as eligible" category will also be low -- even if a greater-than-average percentage of those referred students are determined to be eligible for learning disabled services. Thus the statistical underrepresentation of any particular group is most likely the result of a low rate of referral. Representatives of all three segments on the advisory committee agree that, particularly for some Asian student groups and for many older students with potential learning disabilities, this is the point of most resistance in seeking out learning disabled student services.

"Students Identified as Eligible to Receive Services" includes those students who were administered and qualified on each of the seven eligibility components of the eligibility model. These students are eligible to receive learning disabled services. If students fail to meet the criterion of any one of these seven components, they are ineligible to receive State-reimbursed learning disabled services.

"Students Receiving Learning Disability Services" includes those students who received learning dis ability services from college programs after being determined to be learning disabled. This number of students (6,383) is larger than that identified as eligible to receive services (6,163) because some colleges provide learning disability services to more students than those for whom they receive State funding. They supply these services for these additional students from their own local resources.

DISPLAY 3 Demographic Characteristics of Selected Community College Students, 1988

Characteristic	Total Community College Enrollment, Fall 1988		Students Referred for Learning Disability Assessment, 1988-89		Students Identified as Eligible to Receive Services, 1988-89		Students Receiving Learning Disability Services, 1988-89	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Students	1,322,509	100.0%	9,594	0.73%	6,163	0.47%	6,383	0.48%
Age								
16-17	28,515	2.2%	231	2.4%	164	2.7%	168	2.6%
18	105,668	7.9	988	10.3	680	11.0	691	10.8
19	111,624	8.4	1,141	11.9	764	12.4	788	12.4
20-24	316,338	23.9	2,326	24.2	1,433	23.3	1,489	23.3
25-29	202,838	15.3	1,499	15.6	978	15.9	979	15.3
30-49	406,791	30.8	3,084	32.1	1,943	31.5	2,043	32.0
50-Over	150,735	11.4	325	3.4	201	3.3	225	3.5
Total	1,322,509	100.0%	9,594	100.0%	6,163	100.0%	6,383	100.0%
Sex								
Women	744,633	56.3%	5,228	54.5%	3,248	52.7%	3,361	52.7
Men	573,066	43.3	4,366	45.5	2,915	47.3	3,022	47.3
Unknown	4,810	0.4	--	--	--	--	--	--
Total	1,322,509	100.0%	9,594	100.0%	6,163	100.0%	6,383	100.0%
Ethnicity								
Native American	16,270	1.2%	187	1.9%	117	1.9%	129	2.1
Asian/Pacific Islander	119,803	9.1	198	2.1%	115	1.9	130	2.0
Black	87,775	6.6	899	9.4	512	8.3	603	9.5
Filipino	33,261	2.5	85	0.9	42	0.7	45	0.7
Latino	210,475	15.9	1,404	14.6	840	13.6	916	14.4
White	765,202	57.9	6,519	67.9	4,380	71.1	4,391	68.8
Other	27,302	2.1	90	0.9	46	0.8	57	0.9
Missing	62,421	4.7	212	2.2	111	1.8	112	1.8
Total	1,322,509	100.0%	9,594	100.0%	6,163	100.0%	6,383	100.0%

Note: The number of students served as learning disabled is greater than the number eligible because some students receive learning disabled services outside of the standard eligibility determination process.

Source: Adapted from Table 1 on page 6 of the Chancellor's Office report reproduced in Appendix B.

Age of students

In terms of the age of students, Display 3 shows that for six of the seven age classifications, the percentages of students referred for learning disability assessment in 1988 was proportional with that group's representation with the community college student body as a whole. As was the case last year, however, persons over 50 years of age were referred for assessment at less than one-third the rate of their total numbers. The causes for this statistical underrepresentation are as speculative as they were last year, but members of the advisory committee expressed no surprise with this finding, citing similar evidence from experiences with their own learning disability service populations.

In contrast, the three youngest age groups of student surveyed (16-17, 18-, and 19-year olds) are referred for services at rates noticeably higher than their respective proportions of the student body at large. This could be a byproduct of the increased attention given to the transfer function, as students entering community colleges directly from high school are encouraged to pursue baccalaureate-level educational goals. These younger students appear to be more likely to utilize whatever services they need to improve the likelihood of their success in college. The K-12 representative on the advisory committee said, as an example, that the former high school instructors of learning disabled students often work with these students' community college counselors both to ease their transition to college and to make sure that they gain access to all of the services they may need.

Comparing students *referred* with students determined *eligible* to receive services, the numbers show that all seven age groups attain eligibility at rates very close to those at which they are referred for assessment, and for all age groups the rate of services *received* are within tenths of a percent of their *eligibility* rates.

Sex of students

Among referred students, 54.5 percent were women and 45.5 percent were men, which is within 2 percentage points of each group's representation of the community college student population as a whole, and both men and women received services at rates identical to those at which their eligibility was determined.

The percentage differences between representation in the systemwide student body and learning disability referrals lessened for both men and women between the two years. In 1987-88, men were referred at a rate 4.2 percentage points greater than their proportion of all community college students while women were underrepresented in the referral group by that amount. In 1988-89, male referrals were 2.2 percentage points higher than their systemwide representation of 43.3 percent of the student body, while females were referred at a rate 1.8 percent lower than their 56.3 percent of all community college students. (Although gender information for 1988-89 is available on all learning disability students, it is not available on slightly less than four-tenths of a percent of the 1.3 million students attending the community colleges as a whole.) While these numbers are statistically representative of the community colleges' gender makeup, the Chancellor's Office points out that they are quite different than what exists in other learning disability populations such as elementary and secondary schools and the State Department of Rehabilitation, where males usually outnumber females in the service populations by an almost 2-to-1 margin.

Ethnicity of students

The ethnicity information in Display 3 shows that, for the second year in a row, most ethnic groups make up roughly the same proportion of the *referred* student population as they do the community college student body as a whole. As was the case in 1987-88, however, 1988-89 Asian/Pacific Islander students were substantially underrepresented in the *referred* student group -- constituting only 2.1 percent, compared to 9.1 percent of all community college students. Filipino students were also noticeably underrepresented in the *referred* group -- constituting 0.9 percent, compared with 2.5 percent of all community college students. In contrast, the referral rate for Native American students increased by more than half from 1987-88 to 1988-89 -- up from 1.2 percent to 1.9 percent -- and there were measurable increases in the referral rate for Black and white students as well, although the referral rate for Latino students grew by only one-tenth of a percent. (Ethnicity data were unavailable on 212 students, and another 90 students were categorized as "Other" than the five ethnicity categories used in this study -- Native American,

Asian/Pacific Islander, Black, Filipino, Latino, and white.)

Display 4 below offers a closer examination of community college students referred, eligible, and served as learning disabled in the ethnic categories used in this report at the various stages of involvement in the learning disability determination process. This information is based on the 9,594 students who were referred for assessment for possible learning disabilities, but it does not include students for whom ethnicity data was missing or who did not cite their ethnicity, although these students are included in all of the "totals" columns. It shows that 6,383 students received services in 1988-89, but demographic data were available on only 6,163 of them. As noted earlier, the 6,383 includes some students who received services but did not go through the formal learning disability eligibility process. In contrast, the 5,186 students included as "Number Eligible and Served" completed the full eligibility process, were determined to be eligible, and received these services.

These statistics show that the rate of eligibility for Filipino students is substantially lower than the average rate for all ethnicities. The Chancellor's Office has been unable to determine the reason for this anomaly, but the members of the advisory committee cited similar experiences in their own service groups, where students of Filipino and Asian/Pacific Islander ancestry were often reluctant to seek assessment for possible learning disabilities and, later, were even more reluctant to utilize these services after being determined to be eligible.

Comparisons with other learning disability groups

In response to the Commission's recommendation that the Chancellor's Office compare its demographic information on learning disabled students with comparable groups from other service populations, the Chancellor's Office obtained demographic information on learning disabled students in California's public schools and on learning disabled clients of

DISPLAY 4 *Number and Percentage of Community College Students Classified by Ethnicity Who Were Referred, Determined to Be Eligible, and Received Learning Disabled Services, as Derived from the Number Referred for Assessment for Learning Disabilities*

Classification	Native American	Asian/Pacific Islander	Black	Filipino	Latino	White	Total
Students Referred	187	198	899	85	1,404	6,519	9,594
Not Administered	-22	-21	-83	-15	-159	-587	-926
Net Referrals	165	177	816	70	1,245	5,932	8,668
Number Eligible	117	115	512	42	840	4,380	6,163
Percent Eligible	70.9%	65.0%	62.8%	60.0%	67.5%	73.8%	71.1%
Number Eligible and Served	101	97	432	32	705	3,687	5,186
Percent Eligible and Served	86.32%	84.35%	84.38%	76.19%	83.93%	84.18%	84.15%
Total Number Served	129	130	603	45	916	4,391	6,383
Total Percent Served	68.98%	65.66%	67.07%	52.94%	65.24%	67.36%	66.53%

Note: The categories "Other" and "Missing," are not shown as separate columns in this display, but are included in the "Total" column. "Not Administered" means students who were referred for learning disability assessment but who did receive administration of the seventh component of that assessment -- the eligibility recommendation.

Source: California Community Colleges Chancellor's Office.

the State Department of Rehabilitation for inclusion in this year's report. Display 5 below presents a side-by-side comparison of these three learning disabled populations in terms of their ethnicity and the ethnicity of the larger population.

The goals of these three programs are quite different, and, therefore, comparison among the three groups should be undertaken with caution. Thus Display 5 shows that percentage representations by ethnicity for the three populations vary substantially, particularly with respect to Latino and white representation, yet nonetheless the overall patterns of receipt of services are similar. For both school children and Department of Rehabilitation clients, Asian/Pacific Islanders tend to access learning disability services at rates much lower than their proportional representation in the entire population. For example, while Asian/Pacific Islander students comprise almost 8 percent of the total K-12 student body, they comprise less than 3 percent of school students receiving learning disability services. The comparable figures for the Department of Rehabilitation are even smaller: only 2.5 percent of its clients, compared to 9.5 percent of the State's population. Similar rates of underrepresentation can be found in the K-12 numbers for Filipino students.

Staff of the Chancellor's Office and members of the advisory committee caution that the statistical underrepresentation of students identifying themselves as Asian/Pacific Islander probably is not true across all racial lines in this ethnic category. Some of the committee members suspect that recent immigrant Southeast Asian students may have a generally higher percentage of representation in col-

DISPLAY 5 *Ethnicity of California Community College Students, California K-12 School Students, and California Residents, Compared with Members of These Groups Being Served as Learning Disabled*

Ethnic Group	Total Community College Enrollment, Fall 1988		All K-12 Students, Fall 1988		Total California Population, 1988	
	Number	Percent	Number	Percent	Number	Percent
Native American	16,270	1.23%	35,782	0.77%	Unavailable	
Asian/Pacific Islander	119,803	9.06	368,955	7.98	2,691,300	9.50%
Black	87,775	6.64	411,493	8.91	2,126,200	7.51
Filipino	33,261	2.51	100,334	2.17	Unavailable	
Latino	210,475	15.91	1,449,846	31.39	6,849,500	24.19
White	765,202	57.86	2,251,710	48.76	16,647,900	58.80
Total	1,322,509	*	4,618,120	100.00%	28,314,900	100.00%

Ethnic Group	Community College Students Receiving Learning Disabled Services, Fall 1988		K-12 Learning Disabled Resource Students, Fall 1988		Department of Rehabilitation Learning Disabled Clients, 1988	
	Number	Percent	Number	Percent	Number	Percent
Native American	129	2.02%	1,479	0.75%	73	0.50%
Asian/Pacific Islander	130	2.04	5,637	2.87	374	2.50
Black	603	9.45	19,860	10.13	2,106	14.20
Filipino	45	0.70	1,357	0.69	77	0.50
Latino	916	14.35	66,362	33.84	3,641	24.50
White	4,391	68.79	101,382	51.70	8,584	57.70
Total	6,383	*	196,077	100.00%	14,883	100.00%

* For the community colleges, information from the "Other" and "Missing" categories is not shown as separate columns, but is included in the "Total" rows, therefore the percentages for the community college column totals will not sum to 100. For the groupings of K-12 students, total California population, and Department of Rehabilitation clients, data for the ethnic group "Pacific Islander" has been merged with the ethnic group "Asian" and is reported under the heading "Asian/Pacific Islander" in order to be comparable with the community colleges.

Source: Adapted from Table 4 on page 14 of the report of the Chancellor's Office reproduced in Appendix B.

lege and university learning disability programs than can be shown by the data presently available. This is because neither the Demographic Research Division of the State Department of Finance, the Chancellor's Office Management Information System, nor most other such data collection systems are currently able to collect demographic data by categorical subgroups that differentiates among all of the peoples represented in the Asian/Pacific Islander category. After the 1990 United States Census, many of the State's demographic data collection systems are expected to be redesigned and programmed so that they can collect and assimilate data from the individual Asian races.

Additional work of the Chancellor's Office regarding the possibility of bias

In addition to the last two years' reports on the demographics of their learning disabled students, the community colleges have done much research on the impact of their learning disability eligibility model on their students. Further, the Chancellor's Office has conducted several workshops with the colleges' learning disabilities specialists on issues related to the operation of the eligibility model. The following paragraphs describe a few of these efforts to improve the eligibility model, particularly as relates to issues of bias.

November 1988 qualitative survey of programs for students evaluated for learning disabilities

As the first of these efforts, the Chancellor's Office initiated a qualitative study concerning the day-to-day operation of the learning disability programs of four colleges in the broader context of their other programs for students with disabilities and which involved visits to the four campuses.

February 1989 training on sensitivity to cultural and linguistic differences in assessment

The Chancellor's Office has designed a series of training activities for community college learning disability specialists regarding the variety of assessment information about students that they use in eligibility and program decision making. This training focused on the interaction pattern between an examinee and examiner, in which four goals were identified as appropriate -- to (1) provide information applicable to procedural and administrative validity checks; (2) increase awareness of individual differences and avoid stereotypical expectancies; (3) identify strengths and weaknesses in the specialists' assessment techniques; and (4) improve on the specialists' self-identified areas of weakness.

September 1989 report to the Chancellor's Office of a judgmental analysis of learning disabilities assessment procedures for offensive and stereotypical content

Eligibility for community colleges learning disabilities services is based on an assessment used to determine if students demonstrate the characteristics shared by those students considered as having learning disabilities. This investigation examined whether or not the items in the assessment instruments are offensive to or stereotypical of specific minority groups. The results indicated that the assessment procedures were generally free of offensive or stereotypical content but that the individual student must be considered in determining whether the assessment instruments are individually appropriate. The report on the project explains the method of judgmental analysis, discusses the results of the study, and presents recommendations.

Conclusions

The 1988-89 data on community college students' learning disabilities referral rates, eligibility determinations, and numbers served are consistent with what was observed last year and are generally proportional to systemwide representations. In some cases, the percentages of groups among these students were numerically closer to what would be expected than was found in the 1987-88 data. The percentage representations of learning disabled community college students by age, gender, and ethnicity were in line with their representations in the community college student population systemwide.

The exceptions to this finding of numeric consistency were students identifying themselves as Asian/

Pacific Islander or Filipino, and students over the age of 50. These groups initially seek out learning disability services at lower rates than other student groups. The causes of these three groups' low rates are many, but research in this area and expertise provided by members of the advisory committee suggest that these students are making conscious and informed choices not to access this particular student service at rates as high as would be proportional. The members of the advisory committee, who are experts on assessment instruments, stated that these three groups of students appear to accept referral for these services at a lower rate than the other groups of their own volition and that these decisions appear to be unrelated to the eligibility process used by the community colleges. If more detailed demographic information were available on Asian/Pacific Islander community college students, it is suspected that their rate of underrepresentation would lessen for some racial groups in this category, but to an unknown extent.

After studying the information from both this and last year's reports, and reviewing other research on this subject, the advisory committee concluded that the information does not show the existence of patterns of bias in the operation of the community colleges' eligibility model. Based on our two years of study of information on this subject, the Commission concurs that the community colleges' eligibility model shows no evidence of ethnic, gender, or age-related bias in its design or operation in any of the information put forth on this issue.

The Commission suggests that the Chancellor's Office continue to collect and report demographic information on learning disabled students as called for in the Supplemental Language to the 1988 Budget. The advisory committee for this project has agreed to meet again next fall to review and discuss the 1989-90 demographic data on these students, and this group will provide further advice on this issue prior to the final report of the Chancellor's Office in March of 1992. Commission staff will continue to follow this issue and will report on any future developments in the biennial reports on services to students with disabilities that were mandated by Assembly Bill 746 (Hayden, 1987). With the assistance and input of Chancellor's Office staff and the advisory committee, the Commission will make its final report to the Legislature in Spring 1992 as part of the 1992 report in this series.

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9/10

Appendix A

Item 6070-101-001, Supplemental Report Language to the 1988 State Budget Act

It is the intent of the Legislature that community colleges provide support and instructional services to students with learning disabilities. It is further the intent of the Legislature that community colleges continue the eligibility model implemented statewide in 1987-88 in a manner which affirms the state's commitment to educational equity and ensures accuracy and fairness in determining student eligibility for the program. In keeping with these goals, the Chancellor's Office shall do all of the following:

Data Collection. Prior to September 30, 1988, the Chancellor's Office shall report to the California Postsecondary Education Commission (CPEC), the Legislative Analyst's Office, and the Department of Finance on the number, ethnicity, gender, disability, and age of individuals referred, identified, and receiving services as learning disabled (LD) students during the 1987-88 fiscal year. By February 1, 1989, CPEC shall review, comment, and make recommendations to the legislative budget and policy committees based on these data.

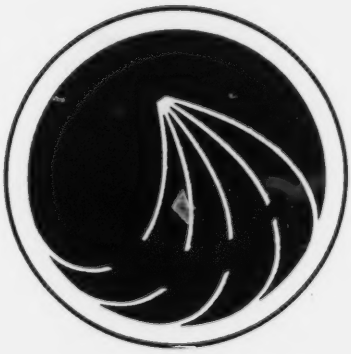
Evaluation. CPEC shall evaluate and report on the impact of the LD model on LD student eligibility based on data collected between the 1987-88 through 1990-91 academic years. Prior to January 1, 1992, the Chancellor's Office shall provide data to CPEC on the number, ethnicity, gender, disability, and age of individuals who were referred, identified, and/or received services as LD students in each academic year. CPEC shall review and comment to the legislative budget and policy committees on this report by March 1, 1992.

It is the intent of the Legislature that in the development of its review, CPEC shall convene an advisory committee composed of professionals with expertise in (1) psychometric testing and evaluation with respect to learning disabled adults, (2) the impact of psychometric assessment instruments on minority group students.

Appendix B

CALIFORNIA COMMUNITY COLLEGES
CHANCELLOR'S OFFICE

Learning Disabilities
Eligibility Outcomes: 1988-89



October 1989

LEARNING DISABILITIES

ELIGIBILITY OUTCOMES: 1988-89

DISABLED STUDENT PROGRAMS AND SERVICES UNIT
CALIFORNIA COMMUNITY COLLEGES
1107 NINTH STREET
SACRAMENTO, CALIFORNIA

Prepared by:

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California Community Colleges Chancellor's Office

INTRODUCTION

In 1982 the Chancellor's Office of the California Community Colleges formed a consortium to improve and standardize assessment procedures that would identify students with learning disabilities. The consortium's activities included the development of the eligibility components, procedures, and criteria to be used in programs for students with learning disabilities (LD) in community colleges throughout the state.

This collaborative effort produced standards for the eligibility process, a learning disabilities definition, and seven assessment components for identifying adults with learning disabilities. This model provided an operational definition of the LD construct and attempted to reduce or eliminate the inequities, inconsistencies, and biases that characterized previous models. In the fall of 1987 the new LD eligibility model was fully implemented at 103 California Community Colleges and three adult education centers that offered LD programs and services.

On May 18, 1988 the Ways and Means Subcommittee on Higher Education approved support for continuation of the system-wide implementation of the Learning Disabilities Eligibility Model. The committee also directed the California Postsecondary Education Commission (CPEC) to evaluate and report on the impact of the LD model on LD student eligibility based on data collected over a four-year period from 1987-88 through 1990-91. (See Appendix A).

This report evaluates the impact of the California Community Colleges' Learning Disabilities Eligibility Model on the number, age, gender, and ethnic group of individuals referred, identified, and receiving services as learning disabled during the 1988-89 fiscal year.

METHODS

The California Community Colleges fully implemented a system-wide learning disabilities model in 1987. The model provides eligibility components, procedures, and criteria used for identifying students with learning disabilities. This model's impact on students referred, assessed, identified, and receiving services during the 1988-1989 school year was evaluated in terms of their number, ethnicity, gender, disability, and age and described in this report.

Population parameters

California has 107 community colleges. As of July 1, 1988, 103 community colleges and three adult education centers had credentialed and certified learning disabilities specialists who provided assessment and services to students with learning disabilities. These colleges and centers were asked to submit data on each student who went through the assessment process between July 1, 1988 and June 30, 1989. Data were requested on those students who completed the process and were eligible for services, students who were found ineligible, and students who started but did not complete the assessment process.

A total of 9,691 student records was received and of these, 9,594 were entered, representing 98.9 percent of students who were assessed for learning disabilities using the LD eligibility model from July 1, 1988 through June 30, 1989. The difference was due to the narrowed age range of at least 16 years of age, the fact that students with other disabilities had been recorded, and other recording errors at the colleges.

Materials

In the early fall of 1988, a letter was sent to all supervising administrators of Disabled Student Programs and Services, requesting that information on the students assessed for learning disabilities using the eligibility model be sent to the Chancellor's Office by July 15, 1988. Attached to this letter were the Ways and Means Subcommittee's alternative language, the LD Eligibility Model Data Form, and directions for completing the data collection form (see Appendix A).

The data collection form provided space for the student's identification number, sex, age, and racial or ethnic grouping. In addition, outcome information regarding each of the seven eligibility components was required: (1) Intake Screening, (2) Measured Achievement, (3) Adaptive Behavior, (4) Ability Level, (5) Processing Deficit, (6) Aptitude-Achievement, and (7) Eligibility Recommendation. The outcome of assessing each student on components (2) through (6) was coded as: Y = yes, the component was met; PC = professional certification was used to meet the component; N = no, the component was not met; and NA = the component was not administered. The Intake Screening component was coded either Y = yes, the component was administered or N = the component was not administered. The Eligibility Determination component was coded as Y = yes, the component was met, N = no, the component was not met, or NA = not administered. The last column on the data form permitted recording of whether or not additional services beyond assessment were provided for the students involved in the eligibility process.

Procedures

The surveys were mailed to the colleges in the early fall of 1988. Chancellor's Office personnel were available to assist with questions or concerns regarding the completion of the data forms. As forms were returned, a staff member assigned a number code for each college and made a duplicate copy of the completed form. The original copy was filed in a binder and the data logged. The copy was given to the data entry personnel. Follow-up calls were made to colleges that had not responded by July 15th, as well as to colleges that returned forms that were incomplete or incorrect (such as two

racial groups listed for a student or "yes" and "no" indicated for the same component). All colleges submitted the required information by July 31st with the exception of one college which submitted the data report on August 24th.

Data entry

The following information was entered into the computer file for each student reported on the college's data form: the assigned college three digit code, student identification number, gender, age, race, component codes, and added services. If the student identification number, age level, racial, or gender code was incomplete, the college was contacted and requested to supply the missing information.

Student cases received, but not entered for analysis, were students whose ages were below 16 years, students with other primary disabilities, students who had been assessed prior to July 1, 1988, and students who were not scheduled to complete the assessment procedures until after June 30, 1989. For each college, the total number of cases received and the total number of cases entered were recorded accompanied by a statement explaining any deleted cases.

Data verification

To assure that the student information collected in the survey had been accurately entered in the computer file, every tenth record was checked for correct college code, student identification number, gender, age, components, and added services. In the event that either omissions or data entry errors occurred, the necessary corrections were made.

RESULTS

Overview

The results of this study have been organized to describe the number of students referred, identified, and receiving services in the colleges' learning disabilities' programs. Information about these students' age, gender, and ethnicity is presented.

Two perspectives might be used in evaluating data: qualitative and quantitative. The qualitative perspective may involve visually examining different numerical values such as percentages and comparing the similarity of the values with one's own expectation of what those values should be. Thus, in this perspective the individual's judgment is essential to setting the standards and evaluating the data against the standards. A quantitative analysis may involve statistical calculations which evaluate the extent to which the observed percentages are similar to the percentages expected from a probability model. In the quantitative perspective the individual also makes choices such as which statistics to use and the standard against which the data are compared, but the actual test of observed data against the expected data is independent of the individual. In these results, three statistics were calculated: a) chi-square, b) Cramer's correlation coefficient, and c) effect size. In both qualitative and quantitative perspectives similar questions are addressed, but decisions are made from different perspectives and thus, differing conclusions are quite possible.

Descriptions of the Student Groupings

System-wide student enrollment. Comparisons are made between the referral sample and the fall enrollment figures for 1988. These enrollment figures included 1,322,509 students who were full-time or part-time and attended either day time or evening in either credit or non-credit classes.

Referred students. Referred students were those students who initiated the eligibility assessment procedures by completing a consent form and one or more of the components of the learning disabilities eligibility model. The 103 colleges reported information on 9,691 students who in the 1988-89 academic year were referred for assessment. However, as explained in the Procedures section, data on 9,594 students were used in these analyses. This sample of 9,594 is 98.9% of the total students on whom information was received. Deletions included 43 students who were less than 16 years of age.

Identified students. Identified students included those 6,163 students who qualified on each of the seven components of the eligibility model. If a student failed to meet the criterion on any one of the seven eligibility components, s/he was not identified as learning disabled.

Served students. Served students included those 6,383 students who received DSPS services other than the assessment procedures used to identify LD students. Confusion is likely in that more students are receiving services than the number identified. The best explanation is that LD specialists provided some other forms of assistance to these students for which they did not receive state funding, but rather was supported by local funding. These added services might be assistance with registration, enrollment in a note-taking or study skills class, academic advisement, and follow-up or subsequent monitoring of academic progress.

Age, Gender, and Racial Factor Outcomes

Numerical data on the colleges' total enrollment and students referred, identified, and served in LD programs are provided in Table 1. These data are grouped into nominal categories of age, gender, and ethnicity as used in the Chancellor's Office. These nominal categories are labeled in the left hand or first column of Table 1. For example, the first nominal grouping for the age factor is the 16-17 year olds. (In this description of the table's contents, this 16-17 year old grouping will be the reference point.) The second column includes the numbers of students from the total community college enrollment included in each grouping. For example, the total number of community college students in the 16-17 age grouping was 28,515. The third column includes the percent value of the particular grouping based on the total enrollment of 1,322,509. For example, 2.16% of all students were 16 or 17 years of age.

Table 1

Frequency and percents of age, gender, and ethnic characteristics

Grouping Factor	Total College		Referred		Identified as Eligible		Served	
	Nos.	Pct.*	Nos.	Pct.*	Nos.	Pct.*	Nos.	Pct.*
Column Nos.: (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age								
16-17	28,515	2.16	231	2.40	164	2.66	168	2.63
18	105,668	7.99	988	10.30	680	11.03	691	10.83
19	111,624	8.44	1141	11.90	764	12.40	788	12.35
20-24	316,338	23.92	2326	24.20	1433	23.25	1489	23.33
25-29	202,838	15.34	1499	15.60	978	15.87	979	15.34
30-49	406,791	30.76	3084	32.10	1943	31.53	2043	32.01
50-over	150,735	11.40	325	3.40	201	3.26	225	3.52
Total	1,322,509	100	9594	100	6163	100	6383	100
Gender								
Females	744,633	56.30	5228	54.50	3248	52.70	3361	52.66
Males	573,066	43.33	4366	45.50	2915	47.30	3022	47.34
Unknown	4,810	0.36	–	–	–	–	–	–
Total	1,322,509	100	9594	100	6163	100	6383	100
Ethnicity								
American Indian	16,270	1.23	187	1.90	117	1.90	129	2.02
Asian	119,803	9.06	198	2.10	115	1.87	130	2.04
Black	87,775	6.64	899	9.40	512	8.31	603	9.45
Filipino	33,261	2.51	85	0.90	42	0.68	45	0.70
Hispanic	210,475	15.91	1404	14.60	840	13.63	916	14.35
White	765,202	57.86	6519	67.90	4380	71.07	4391	68.79
Other	27,302	2.06	90	0.90	46	0.75	57	0.89
Missing	62,421	4.72	212	2.20	111	1.80	112	1.75
Total	1,322,509	100	9594	100	6163	100	6383	100

* Note: Pct. = percent. These percent values approximate 100% due to rounding and truncation.

Information on the number and percent of students in each nominal grouping who were referred to the LD programs is included in columns four and five. For example, 9584 students were referred to the program. In this data set 231 of them were ages 16-17. As a percent 16- and 17-year old students were 2.4% of all referred students.

Information on the number and percent of students who were identified as LD is included in columns six and seven. In this sample 6163 students were identified as learning disabled. The 16-17 year old age grouping included 164 students which was 2.66% of all students.

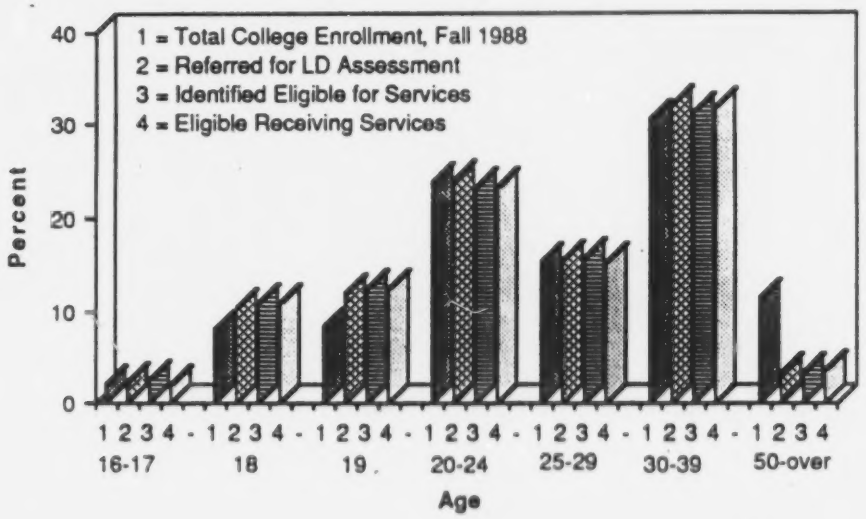
The number and percent of students in each grouping who were served in the LD programs are designated in columns eight and nine, respectively. The total number of students receiving services was 6383. This number included 168 students in the 16-17 year old age grouping. The 16-17 year old grouping included 2.63% of all students identified during 1988-89 and receiving LD services. (Obviously, more than 6383 students are receiving services in the LD programs for which the colleges are receiving supplemental funding, but those additional students were identified in prior years and are not the focus of this report.)

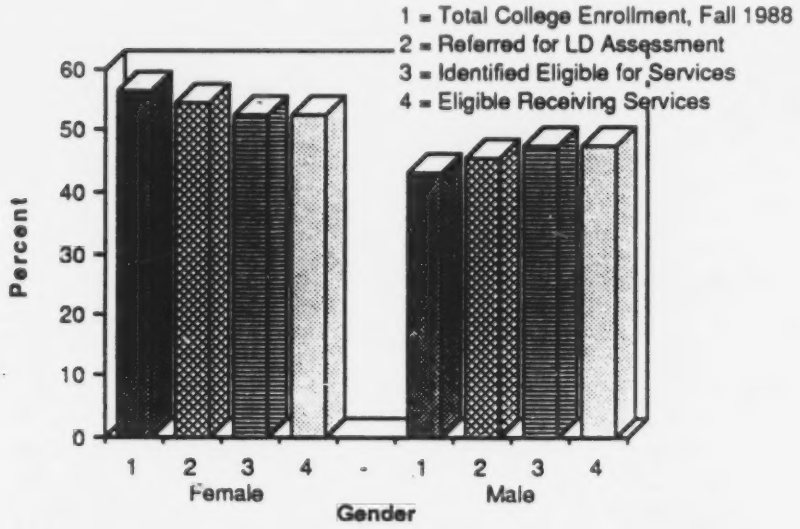
Figure 1 is a graphic depiction of the data provided in Table 1. Three bar graphs depict the demographic distributions of the community college samples. The first graph shows the age groups: 16-17, 18, 19, 20-14, 30-39, and 50-over. The second graph shows the gender groups - female and male. The third group shows the community college sample grouped by ethnicity: American Indian, Asian, Black, Filipino, Hispanic, White, Other, and Missing. Each column bar represents the percentage of the group among (1) the college's total fall, 1988 enrollment, (2) the students referred for LD eligibility assessment, (3) the students identified as eligible for services, and (4) the eligible students receiving services. Since the percentage differences are generally quite small for each of the four groups, Table 1 is very important for accurately interpreting the results.

Statistical information has been collapsed into Table 2. The statistics have been grouped to include age, gender, and ethnic groupings and to examine these groups in terms of identification and additional services. For each grouping, only those students were included who were administered all relevant components of the eligibility model used to identify students with learning disabilities needing services. Operationally, this rule required that information was available on the outcome of the Eligibility Determination Component and the question regarding whether the student was receiving additional services. Three statistics are included in the table: (a) chi-square, (b) Cramer's coefficient, and (c) effect size.

Chi-square was used as an index of statistical independence. For example, was the identification outcome independent of the grouping factor, such as gender grouping? This statistic is very sensitive to any deviations of the proportions, even those deviations which have limited meaning. A second important consideration is that the chi-square test is an overall test. Thus, if the observed values in any two cells depart from the expected values, the test will yield statistically significant results. Related to this consideration is a third point and that is, the cumulative effect of even small differences may yield statistically significant results. The chi-square test does not indicate which specific percentage values are comparable or different from the statistical model's expected values.

Figure 1 Demographic Distributions of Community College Samples





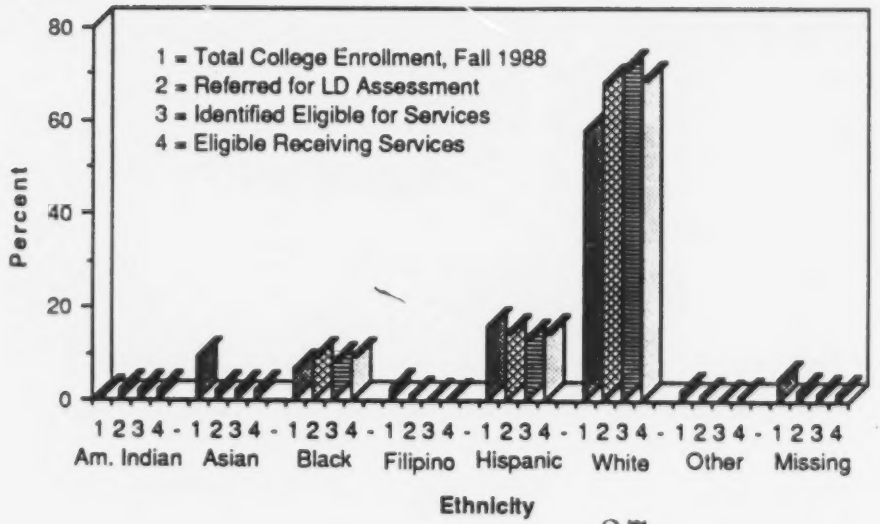

1 = Total College Enrollment, Fall 1988
2 = Referred for LD Assessment
3 = Identified Eligible for Services
4 = Eligible Receiving Services
Percent
0
20
40
60
80
1 2 3 4 - 1 2 3 4 - 1 2 3 4 - 1 2 3 4 - 1 2 3 4 - 1 2 3 4 - 1 2 3 4 - 1 2 3 4
Am. Indian
Asian
Black
Filipino
Hispanic
White
Other
Missing
Ethnicity

Table 2

Statistical Relations Among Age, Gender, and Ethnic Characteristics and Identification, and Added Services Outcomes

	Identification			Additional Services		
Grouping Factor	Chi-Square	Cramer's *V*	Effect Size(%)	Chi-Square	Cramer's *V*	Effect Size(%)
Age	28.41*	.05	5	12.15**	.03	3
Gender	29.98*	-.05	5	31.15*	.06	5
Ethnicity	81.53*	.09	5	28.29*	.05	5

* Statistically significant with $p < 0.00$
** Statistically significant with $p < 0.05$

The second index, Cramer's coefficient, was used to assess the degree or magnitude of statistical association. The upper value of the coefficient is 1.00, meaning a complete dependence between the two variables. The lower limit is .00, meaning no association.

The third index, effect size (Cohen, 1977), addresses the question: How much dependence exists between the outcome on one variable, e.g., identification or added services, and a second variable, e.g., age, gender, or ethnicity? The values range from .00, meaning no dependence, to 1.00, meaning total accountability for the outcome.

Age related factors. In the referral sample, several interesting patterns were evident as percent values between the referral and total college populations were compared. Overall, the percentages for the seven age groupings were quite similar to their percentages in the total college population. Within this pattern an interesting result was that the two age groupings with the highest percentage of over-referrals were those age groups including new high school graduates. This over exposure of the two age groups may reflect the increased emphasis given to transitioning students into the community college setting. A second interesting departure was that the 50-over group was under-represented in the referral group. While students 50 years old or older represented 11.4% of the total student population, only 3.4% of the referred students were from this age grouping.

Among the identified students the percents for each age grouping closely paralleled their representation among the referred students. Similarly, among the students receiving added services the age grouping percentages again were comparable to the referral percentages. The calculated differences were less than one percent for any group.

From Table 2, the reader will note that the chi-square statistic did detect a reliable difference across the different age groups. This difference was noted in both the identified and served student groups. However, both Cramer's coefficient and the effect size were very small.

Gender related factors. In the referral sample, males were evidenced more frequently (2%) than they were in the total college population. Conversely, females were under-represented by the same two percent.

Among those students identified as having learning disabilities and receiving services, the percentage values for males (47%) increased by four percent over their representation in the total population, which was 43%. The chi-square test (in Table 2) detected the differences as reliable differences from the expected values. However, the degree of association and the amount to which identification or receiving additional services were dependent on the student's gender was very small. This conclusion was based on the computed values for Cramer's coefficient and the effect size, both of which were either .05 or .06.

Ethnic related factors. Marked differences were evidenced between the percent of the total student population belonging to each of the ethnic groups and the percent of the referred students from the same ethnic groups. For example, while Asians comprised 9% of the student population, Asians were only 2% of the referred students. Similarly, one might speculate on a number of reasons for such a difference, e.g., overall achievement level, enrollment patterns, college goals, attributions of successful and unsuccessful achievement, scheduling patterns, motivation, counseling, and advisement. These explanations and others were not addressed in the data collection efforts. Similarly, Blacks represented approximately 7% of the total student population and were represented more frequently in the referred sample, approximately 9%. The largest difference in relative magnitude was evidenced among White students, who comprised 57.8% of the enrollment but 67.9% of the referrals. Perhaps they are experiencing greater difficulties in their academic program.

In reviewing the percentages among the ethnic groups of the identified students and the students receiving additional services, the reader will note similar percentages as the percentages in the referral sample. For the identified students, the percentages were close to their values in the referral samples. The largest difference was that Whites were more likely identified; the difference was 3.17% (71.07 - 67.90 = 3.17).

Interestingly, the percentages of students served were similar to the percentages in the referral sample. The differences were less than one percent for any ethnic group, just as they were among the different age groupings. Thus, while the percentages showed variation between referred and identified groups, the percentage differences were minimal between referred students and served students.

Ethnicity data from Table 2 indicate statistical values are similar in magnitude, but are also larger than those values associated with age and gender factors. The chi-square was significant for outcomes on both identification and added services. The respective chi-square values were 81.53 and 28.29. The correlation between the identification outcome and the ethnic group membership was .09 as was the effect size. Added services were provided with little appreciable distinction based on ethnic membership. Cramer's coefficient, a measure of association, was calculated as .05, which was similar to the effect size. Recall that effect size is a numerical index indicating the degree to which provision of added services could be attributed to one's ethnic membership.

Table 3 was constructed to synthesize a variety of information. The columns are organized for the different ethnic groups and the last column is the total for the rows. The row labeled "Referrals" indicates the number of students, 9594, who initiated the eligibility assessment procedures by completing a consent form and one or more of the eligibility components. However, not all students who started the eligibility components, completed the process. Some students chose not to continue for unknown reasons. The most important component is the Eligibility Determination component because this is the decision point at which students are identified or not identified as having learning disabilities. The number of students for whom this decision was not made was labeled "Not Administered," meaning the component was not administered. The total number of students for whom this determination was not made was 926.

Table 3

Total Number of Students Referred, Classified as Eligible, and Receiving Services in the Learning Disabilities Programs

Classification	American Indian	Asian	Black	Filipino	Hispanic	White	Other	Missing	Total
(1) Referrals	187	198	899	85	1404	6519	90	212	9594
(2) Not Administered	-22	-21	-83	-15	-159	-587	-11	-28	-926
(3) Net Referrals	165	177	816	70	1245	5932	79	184	8668
(4) Number Eligible	117	115	512	42	840	4380	46	111	6163
(5) Percent Eligible	70.9	65.0	62.8	60.0	67.5	73.8	58.2	60.3	71.10
(6) Eligible & Served	101	97	432	32	705	3687	41	91	5186
(7) Pct. Elig. & Served	86.32	84.35	84.38	76.19	83.93	84.18	89.13	81.98	84.15
(8) Total Served	129	130	603	45	916	4391	57	112	8383
(9) Pct. Served	68.98	65.66	67.07	52.94	65.24	67.36	63.33	52.83	66.53

The third row of the table reflects the actual number of students who thus could have been eligible if they had completed all of the components. This row is called "Net referrals" and included 8668 students. Row four includes the student count identified as having learning disabilities. This count would indicate the potential students who might be expected to receive services. Row five provides these counts computed as percents of the "Net Referrals." That is, the percent of the net referrals of a given ethnic group who were identified as eligible for learning disabilities services. For example, looking at the first column of the 187 American Indian students referred, 22 did not complete the identification procedures, thus 165 students completed the procedures. Of these 165 students, 117 students were judged eligible. These 117 students computed to a 70.9% eligibility rate. For the other ethnic groups, the percent eligible ranged from 58.2% in the "Other" category to 73.8% for the Whites. The average eligibility rate was 71.1%.

Rows six and seven provide information on students receiving services. These values were based only on those students who were eligible for services. As these values indicate, fewer students were receiving additional services than were eligible for them. The percentage values ranged from a low of 76.19% for Filipinos to a high of 89.13% for students indicating some "Other" ethnic group than those groups listed. While the percentage of Whites identified and eligible was the highest for all groups (based on row five), four other groupings had higher rates receiving services (American Indian, Asian, Blacks, and Other).

Rows eight and nine indicate the number and percentage of all students who were receiving services. For example, of the 165 American Indian students who were considered as "Net referrals" (from row three) 129 of them (or 68.98%) were receiving services. A visual inspection of rows four and eight indicates that for all ethnic groups more students were receiving services than were identified as eligible. The percentages were generally in the mid-60% range, with two exceptions - Filipinos (52.94%) and Missing (52.83%). The data do not provide any clues regarding the basis of this phenomenon.

DISCUSSION

In the discussion section, the results of the study are reviewed and a set of issues relevant to the data is presented. This report describes characteristics, i.e., age, gender, and race, in four student groupings of the college population: (a) the students enrolled in the fall of 1988; (b) the students referred for evaluation on the LD eligibility model; (c) the students found eligible on the LD eligibility model, i.e., identified as learning disabled; and (d) the students who received additional services from the LD programs. Comparisons of those characteristics were made among the four student groupings. This year's report also includes comparisons among the community college LD population with the general California population, the California K-12 student population, and the California Department of Rehabilitation clients with learning disabilities who are served.

The 1988-1989 age, gender, and ethnicity data are consistent with the data gathered in the 1987-88 year. Therefore, the discussion and issues raised in the 1988 report to CPEC remain relevant.

In general the age characteristics of the identified LD sample matched closely the age characteristics of the college student population and the referral sample. However, students aged 50 or more were not referred to LD programs in the same proportion that they were enrolled in college. They were evidenced in a lower proportion. The low referral rate might be explained because this older population may have a different purpose for attending college or may have developed effective compensatory skills and thus not need the support services. This population may have a limited awareness of learning disabilities or learning disabilities may have a negative stigma attached to it and therefore the students aged 50 or over do not seek these services. While the referral rate was lower than for other age groupings, the eligibility rate for students aged 50 or over was consistent with the referral rate.

For the gender factor, the observed proportions differed from expected values in a statistically significant manner. Males were more likely to be eligible than were females. Males were 43.3% of the community college population, yet 45.5% were referred for LD assessment and 47.3% were found eligible. This ratio of females to males identified as learning disabled is quite different from the general pattern in other data sets. In nationally obtained data of K-12 grade levels, the ratio of males to females ranges from 3:2 to as high as 7:3. Males comprise 63% of the California Department of Rehabilitation clients served as LD. The disproportion of males in the community college LD programs is not as dramatic as in the other data sets.

On ethnic factors, significant differences were found in examining the proportions of Asians and Filipinos in the student population and their proportions in the referral sample. These ethnic groups were under-referred in the proportion that they were included in the student population. Among the identified LD populations, proportional differences were also noted. The proportions of students eligible in each racial group were not equivalent. However, while gender and racial factors demonstrated a statistically significant relationship with the eligibility outcome, these characteristics do not notably affect the eligibility decision. Other factors were suggested as having a cumulatively greater effect. These factors may include: socio-economic level, language fluency, educational history, referral process, support services, availability of services, scheduling of services, campus population characteristics, administrative support, level of aspiration, and motivation. However, one should also be cognizant that gender and race may explain the relationship to a greater degree than any other factor. Which factors are important is presently unknown.

Comparisons of the community college general student population and identified LD population with the general population, the K-12 students, and the Department of Rehabilitation clients are available in Table 4. (Table 1 includes the community college's comparable data.)

Table 4

Frequency and percents of age, gender, and ethnic characteristics in K-12, Department of Rehabilitation, and California's general population

Age	Dept. of Rehab. LD Clients		California Gen. Population	
	Nos.	Pct.*	Nos.	Pct.*
16-17	2,067	13.9	709,637	2.51
18	3,422	23.0	422,567	1.49
19	2,506	16.8	447,742	1.58
20-24	2,604	17.5	2,155,629	7.61
25-29	1,516	10.2	2,351,627	8.31
30-49	2,278	15.3	8,536,775	30.00
50 and over	182	12	6,859,522	24.23
Total	14,575	97.9	21,483,499	75.73

Gender	Dept. of Rehab. LD-Clients		California Gen. population	
	Nos.	Pct.*	Nos.	Pct.*
Male	9,419	63.13	13,961,332	49.31
Female	5,464	3670	14,353,481	50.69
Total	14,883	99.83	28,314,813	100.00

Ethnicity	K-12 All Students		K-12 LD-Resource		Dept. of Rehab. LD Clients		California Gen. population	
	Nos.	Pct.*	Nos.	Pct.*	Nos.	Pct.*	Nos.	Pct.*
Am. Indian	35,782	.77	1,479	.75	73	.5	---	--
Asian	345,201	7.47	5,101	2.60	315	2.1	2,691,300	9.50
Black	411,493	8.91	19,860	10.13	2,106	14.2	2,126,200	7.51
Filipino	100,334	2.17	1,357	.69	77	.5	---	--
Hispanic	1,449,846	31.39	66,362	33.84	3,641	24.5	6,849,500	24.19
Pac. Islander	23,754	.51	536	.27	59	.4	---	--
White	2,251,710	48.76	101,382	51.70	8,584	57.7	16,647,900	58.8
Total	4,618,120	100	196,077	100	14,883	100	28,314,900	100

*Pct = percent. Values may not sum to 100 due to rounding, truncation, or sample characteristics.

Age and gender information is also presented in Table 4. The percentages do not sum to 100 because the age ranges are not complete. Of the data presented, the reader will notice that the age distributions for the Department of Rehabilitation's LD clients and the state's general population are markedly different from the community college students' age distribution. Neither the college nor Department of Rehabilitation match the age distribution, perhaps reflecting characteristics inherent in the respective systems which interact with the interests and goals of the individuals in the age groups. Seemingly, these data suggest that a parity model would not fit. Unfortunately, comparable data were not available from the K-12 system.

Gender differences were also noted between the state's population and the LD clients served in the Department of Rehabilitation. In the general population, the males and females were almost equally distributed. In the Department of Rehabilitation, the LD clients are not equally distributed. The proportions are almost a ratio of 2:1 males to females (63% to 36%). Again, these population differences are larger than those differences observed in the community college data presented in Table 1.

The proportion of the population belonging to each of the ethnic groups is presented in Table 1. For example, for the K-12 school age population, 35,782 students were identified as American Indian. This figure represents .77 of the total. Difficulty occurs when attempting to equate the populations in Table 4 with one another because of the way different ethnic categories are tabulated in the various state agencies. Information on the general California population demographics was collected by the Department of Finance, which used only four ethnic groupings: Black, Hispanic, White, and Asian/Other. If a person was Black and Hispanic, s/he was counted twice. This coding procedure obviously raises questions about the validity of the data. The K-12 educational system and the Department of Rehabilitation separate Asian from Other and also place Filipino in a separate category. However, the K-12 system and Department of Rehabilitation also have a separate category for Pacific Islander.

The greatest difference between the general population and K-12 enrollment figures was among Hispanics and Whites. Whites comprised 10% more of the general population than they did in the K-12 student body. In contrast, Hispanics accounted for 24% of the general population, but 31% of the K-12 students. The values for the community college system as represented by the numbers in Table 1 showed more similar proportions to the general population than to the K-12 system. This pattern might be a reflection of who was counted in the Department of Finance's census data. The adult populations in the community colleges and the Department of Finance might be expected to be closer than the child counts in the K-12 system.

Considering the demographic characteristics included in Table 1, the Asian population is consistently under-represented in the referral process to the California community college LD programs and thus under-represented in the LD programs. Asians are also underrepresented in the K-12 LD resource classes and in the Department of Rehabilitation clientele. This difference might be explained by: (1) language differences which could result in a lack of understanding of some Asian students about student services, (2) cultural differences regarding attitudes about special education and support, and (3) few valid informal and formal assessment procedures are available for English as a Second Language students with the community college's age groups. The data collected by the community colleges for 1989-1990 will include 22 ethnic categories. Hopefully, next year's data will provide more specific information related to Asians as well as other populations under-represented in the referral process.

Another limitation that exists when comparing the community college LD demographics with the other agencies' demographics is that the community college system is the only agency with available referral information. An examination of the proportional representation statistics for the colleges suggests that the lack of proportional representation for Asians and males may be a

referral issue rather than an eligibility issue. Generalizing this discussion to the other agencies' populations was impossible because the necessary information for this analysis was unavailable. In addition to these limitations, the Department of Education did not have gender information for the various disability groups served.

By June 30, 1989, 85% of the students identified as eligible during the academic year had received services from the LD programs beyond the services associated with the assessment process. This information was not available in the 1987-88 year's report because of discrepancies regarding the definition of "additional services." Considering the number of inquiries to the Chancellor's Office during the current year, confusion regarding these terms still remains. "Additional services" might be interpreted to include a brief appointment with a specialist, enrollment in a special class, or a phone call or accommodations. These data, thus, should be cautiously interpreted. Reasons for students not receiving additional services as individually defined by the campus learning disabilities specialists might be: (1) full services were delayed until the next term, (2) some students refused services, (3) some students may not need the accommodations until they enroll in a particular class where their disability is manifested. An important consideration is to note that college learning disabilities specialists are aware that no categorical monies are received for students who do not meet the LD eligibility model. Non-LD students are served at cost to the local college.

Issues. Various issues were identified in the report presented to CPEC in the "Demographic Characteristics - Learning Disabilities Eligibility Model, 1987-1988." These issues remain important factors impacting the results, and thus are restated in the following text as a frame of reference.

The Chancellor's Office values equitable, accurate, unbiased, and consistent assessment of students. As one attempts to judge the extent to which these standards are met, the realization is apparent that the terms have different meanings to different people. Thus, to evaluate these standards, conceptual and operational definitions and evaluation criteria must be agreed upon (Hunter & Schmidt, 1976).

An assumption seems to be that a parity model is appropriate in evaluating the eligibility model. That is, the model is equitable to the extent that students are included in proportion to the extent that their group occurs in the population. The question is: What is the basis for using parity as the criterion? Are other criteria important? The data from the different sources (e.g., Department of Finance, Department of Education, Department of Rehabilitation) differed quite extensively in some instances. These differences must be considered in examining any standard or numerical criterion. The data also indicated that referral rates were not representative of the population and thus the placement proportions likely would not mirror the population either.

A second assumption seems to be that students as members of a particular age, gender, or racial grouping are all alike because of their membership in that particular grouping. Such an assumption is unfounded and in fact contrary to the concept of individual differences. This assumption about similarity among ethnic group members was likely considered in the Department of Finance's decision to count some population members as belonging to two ethnic groups.

As indicated in the report, the factors of age, gender, and race account for little impact on the eligibility outcome. Thus, an important next step is the determination if factors other than those assessed in the eligibility model contribute to the eligibility outcome.

Although statistical indices are frequently accepted as a measure of fairness, they too have a narrow interpretation. Unfairness, even if it occurs for a particular student in one setting is still

injustice. The case also can be made that the numbers may look "right," but yet not be sensitive to particular factors affecting fairness, accuracy, and equity.

In interpreting these data a seemingly important consideration is that students' participation is strictly voluntary. Each student must sign a consent form indicating that s/he agrees to the assessment. However, enrollment in other college programs and classes is not contingent upon the results of the learning disabilities assessment. Understanding these basic points is essential when considering the colleges' LD programs.

An issue in these data is that "referred students" were operationally defined as those students for whom the colleges' LD specialists had completed an Intake Interview. The number of students who sought out the LD program or were recommended by someone else, e.g., counselor, class instructor, etc., but did not choose to complete the initial interview process is unknown. Thus, the sample used in this report must be considered as a conservative estimate.

An issue related to the referral process is that the referral process lacks uniformity across campuses, just as student demographics are not uniform across the campuses. The availability of services is clearly impacted by the constraints which limit their access to particular students, e.g., those students who are registered and enrolled or those students who attend during the day. Additional factors hypothetically impacting the referral process concern recruitment and the perception of the LD program on campus and in the community. Recruitment issues include who does the recruitment and where it is done.

In an additional effort to improve the accuracy and consistency of students' evaluations, LD specialists were provided a computer program to assist them in converting students' earned scores to standard scores and other scales. The Chancellor's Office developed the computer program so that each specialist can easily obtain accurate scores for use in the eligibility procedures and can report similar information as part of the legislature's research interests in the eligibility model.

Summary. In this Discussion section the results were briefly reviewed, and a variety of issues was presented concerning significant factors. Quite obviously, the issues, like the results, are not simple. The lessons learned in this year's effort, particularly regarding the meaning and designation of "Added services," will be incorporated in next year's efforts and other activities to ensure that students receive accurate, equitable, and just services.

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Appendix A

Budget Language Directing Data Collection

Item 6870-101-001
Learning Disabilities
Screening Model

Ways and Means Staff
May 12, 1988

ALTERNATIVE LANGUAGE

It is the intent of the Legislature that community colleges provide support and instructional services to students with learning disabilities. It is further the intent of the Legislature that community colleges continue the eligibility model implemented statewide in 1987-88 in a manner which affirms the state's commitment to educational equity and ensures accuracy and fairness in determining student eligibility for the program. In keeping with these goals, the Chancellor's Office shall do all of the following:

Data Collection. Prior to September 30, 1988, the Chancellor's Office shall report to the California Postsecondary Education Commission (CPEC), the Legislative Analyst's Office, and the Department of Finance on the number, ethnicity, gender, disability, and age of individuals referred, identified, and receiving services as learning disabled (LD) students during the 1987-88 fiscal year. By February 1, 1989, CPEC shall review, comment, and make recommendations to the legislative budget and policy committees based on these data.

Evaluation. CPEC shall evaluate and report on the impact of the LD model on LD student eligibility based on data collected between the 1987-88 through 1990-91 academic years. Prior to January 1, 1992, the Chancellor's Office shall provide data to CPEC on the number, ethnicity, gender, disability, and age of individuals who were referred, identified, and/or received services as LD students in each academic year. CPEC shall review and comment to the legislative budget and policy committees on this report by March 1, 1992.

It is the intent of the Legislature that in the development of its review, CPEC shall convene an advisory committee composed of professionals with expertise in (1) psychometric testing and evaluation with respect to learning disabled adults, (2) the impact of psychometric assessment instruments on minority group students.

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature.

Members of the Commission

The Commission consists of 15 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The other six represent the major segments of postsecondary education in California.

As of February 1990, the Commissioners representing the general public are:

Mim Andelson, Los Angeles;
C. Thomas Dean, Long Beach;
Henry Der, San Francisco;
Seymour M. Farber, M.D., San Francisco;
Rosalind K. Goddard, Los Angeles;
Helen Z. Hansen, Long Beach;
Lowell J. Paige, El Macero; *Vice Chair;*
Cruz Reynoso, Los Angeles; *Chair;* and
Stephen P. Teale, M.D., Modesto.

Representatives of the segments are:

Meredith J. Khachigian, San Clemente; appointed by the Regents of the University of California;

Theodore J. Saenger, San Francisco; appointed by the Trustees of the California State University;

John F. Parkhurst, Folsom; appointed by the Board of Governors of the California Community Colleges;

Harry Wugalter, Thousand Oaks; appointed by the Council for Private Postsecondary Educational Institutions;

Joseph D. Carrabino, Orange; appointed by the California State Board of Education; and

James B. Jamieson, San Luis Obispo; appointed by the Governor from nominees proposed by California's independent colleges and universities.

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs."

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory planning and coordinating body, the Commission does not administer or govern any institutions, nor does it approve, authorize, or accredit any of them. Instead, it cooperates with other State agencies and non-governmental groups that perform these functions, while operating as an independent board with its own staff and its own specific duties of evaluation, coordination, and planning.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, its meetings are open to the public. Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request before the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Kenneth B. O'Brien, who is appointed by the Commission.

The Commission publishes and distributes without charge some 30 to 40 reports each year on major issues confronting California postsecondary education. Recent reports are listed on the back cover.

Further information about the Commission, its meetings, its staff, and its publications may be obtained from the Commission offices at 1020 Twelfth Street, Third Floor, Sacramento, CA 98514-3985; telephone (916) 445-7933.

COMMENTS ON THE CALIFORNIA COMMUNITY COLLEGES' 1989 STUDY OF STUDENTS WITH LEARNING DISABILITIES

California Postsecondary Education Commission Report 90-14

ONE of a series of reports published by the Commission as part of its planning and coordinating responsibilities. Additional copies may be obtained without charge from the Publications Office, California Postsecondary Education Commission, Third Floor, 1020 Twelfth Street, Sacramento, California 95814-3985.

Recent reports of the Commission include:

89-28 Funding for the California State University's Statewide Nursing Program: A Report to the Legislature in Response to Supplemental Language to the 1988-89 Budget Act (October 1989)

89-29 First Progress Report on the Effectiveness of Intersegmental Student Preparation Programs: One of Three Reports to the Legislature in Response to Item 6420-0011-001 of the 1988-89 Budget Act (October 1989)

89-30 Evaluation of the Junior MESA Program: A Report to the Legislature in Response to Assembly Bill 610 (Hughes) of 1985 (October 1989)

89-31 Legislation Affecting Higher Education During the First Year of the 1989-90 Session: A Staff Report of the California Postsecondary Education Commission (October 1989)

89-32 California Colleges and Universities, 1990: A Guide to Degree-Granting Institutions and to Their Degree and Certificate Programs (December 1989)

90-1 Higher Education at the Crossroads: Planning for the Twenty-First Century (January 1990)

90-2 Technical Background Papers to *Higher Education at the Crossroads: Planning for the Twenty-First Century* (January 1990)

90-3 A Capacity for Learning: Revising Space and Utilization Standards for California Public Higher Education (January 1990)

90-4 Survey of Space and Utilization Standards and Guidelines in the Fifty States: A Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

90-5 Calculation of Base Factors for Comparison Institutions and Study Survey Instruments: Technical Appendix to *Survey of Space and Utilization Standards and Guidelines in the Fifty States*. A Second Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

90-6 Final Report, Study of Higher Education Space and Utilization Standards/Guidelines in California: A Third Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

90-7 Legislative Priorities of the Commission, 1990: A Report of the California Postsecondary Education Commission (January 1990)

90-8 State Budget Priorities of the Commission, 1990: A Report of the California Postsecondary Education Commission (January 1990)

90-9 Guidelines for Review of Proposed Campuses and Off-Campus Centers: A Revision of the Commission's 1982 *Guidelines and Procedures for Review of New Campuses and Off-Campus Centers* (January 1990)

90-10 Faculty Salaries in California's Public Universities, 1990-91: A Report to the Legislature and Governor in Response to Senate Concurrent Resolution No. 51 (1965) (March 1990)

90-11 Status Report on Human Corps Activities, 1990: The Third in a Series of Five Annual Reports to the Legislature in Response to Assembly Bill 1820 (Chapter 1245, Statutes of 1987) (March 1990)

90-12 The Dynamics of Postsecondary Expansion in the 1990s: Report of the Executive Director, Kenneth B. O'Brien, March 5, 1990 (March 1990)

90-13 Analysis of the 1990-91 Governor's Budget: A Staff Report to the California Postsecondary Education Commission (March 1990)

90-14 Comments on the California Community Colleges' 1989 Study of Students with Learning Disabilities: A Second Report to the Legislature in Response to Supplemental Report Language to the 1988 State Budget Act (April 1990)

90-15 Services for Students with Disabilities in California Public Higher Education, 1990: The First in a Series of Biennial Reports to the Governor and Legislature in Response to Assembly Bill 746 (Chapter 829, Statutes of 1987) (April 1990)

90-16 Standardized Tests Used for Higher Education Admission and Placement in California During 1989: The First in a Series of Biennial Reports Published in Accordance with Senate Bill 1416 (Chapter 446, Statutes of 1989) (April 1990)

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